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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,179	03/10/2000	NICOLANGELO PEDUTO	022701-854	4762

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EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 08/13/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-12

Office Action Summary	Application No. 09/462,179	Applicant(s) PEDUTO ET AL.	
	Examiner Marc A Patterson	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2002.
- 2a) ☒ This action is **FINAL**. ✓ 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

NEW REJECTIONS

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term 'modulus' is indefinite, because it is unclear what modulus is being claimed. (Young's, flexural, etc.).

3. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase 'adjacently arranged with' is indefinite because its meaning is unclear. For purposes of examination, the phrase will be assumed to mean 'adjacent to.'

4. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term 'international standard SAE J 844' is indefinite because the abbreviation 'SAE J 844' has not been defined; the limitation also contains a standard, which may change with time; the procedure and conditions of the standard have also not been defined in the claim. Correction and / or clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 12 and 19 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerschbaumer (U.S. Patent No. 5,219,003).

With regard to Claims 1, 4, 11 – 12 and 20, Kerschbaumer discloses a three – layered tube having impact resistance – modified layers; the internal layer consists of polyamide 6, with an added impact resistance modifier which is a polyethylene rubber component (column 2, lines 39 – 47); the middle layer, which serves as a barrier layer, comprises Grilon CA6E, an amorphous copolyamide based on caprolactam and laurolactam (a lactam which corresponds to an amino acid having at least 9 carbons), and Grilamid XE3148, an impact resistance modifier (column 3, lines 1 – 40; Table 1). Kerschbaumer fails to disclose a polyamide impact resistance modifier present at a concentration by weight of between 10 and 50%. However, Kerschbaumer discloses an impact resistance modifier present at a concentration by weight of 1% (the polyamide comprises an impact modifier; column 2, lines 39 – 47). Therefore, the concentration would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the concentration, since the concentration would be readily determined through routine optimization by one having ordinary skill in the art depending on the

Art Unit: 1772

desired end result as shown by Kerschbaumer. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

With regard to Claims 2 and 23, the external layer comprises an impact modifier (column 2, lines 27 – 38).

With regard to Claim 3, Kerschbaumer fails to disclose an impact resistance modifier present in the external layer at a concentration by weight of between 5 and 50%. However, Kerschbaumer discloses an impact resistance modifier present at a concentration by weight of 1% (the external layer comprises an impact modifier; column 2, lines 39 – 47). Therefore, the concentration would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the concentration, since the concentration would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kerschbaumer. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

With regard to Claims 5 – 9, 21, and 24 – 26, Kerschbaumer teaches additional layers comprising the composition of the internal and external layers (column 2, lines 63 – 67). The claimed aspects of the internal intermediate layers and external intermediate layer being ‘arranged alternately in the transverse direction of the structure’ and an intermediate layer being formed by the ‘composition forming the internal layers’ therefore read on Kerschbaumer.

With regard to Claim 19, the composition comprising the internal layer comprises a plasticizer (column 4, lines 43 – 44).

Art Unit: 1772

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerschbaumer (U.S. Patent No. 5,219,003) in view of VanBuskirk et al (U.S. Patent No. 5,357,030).

Kerschbaumer discloses a three – layered tube comprising a polyamide 6 layer as discussed above. Kerschbaumer fails to disclose a polyamide 6 layer which comprises a chain extender which is present at a concentration of 0.05% and 5% by weight of the layer.

VanBuskirk et al teach the addition of a chain extender to polyamide 6 for the purpose of improving the physical characteristics of the polyamide 6 in the making of extruded products (column 1, lines 38 – 59; column 2, lines 58 – 68).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for the addition of a chain extender to polyamide 6 in Kerschbaumer in order to improve the physical characteristics of the polyamide 6 in the making of extruded products as taught by VanBuskirk et al.

8. Claims 14 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerschbaumer (U.S. Patent No. 5,219,003) in view of Princiotta et al (European Patent No. 0646627).

Kerschbaumer discloses a multilayer polyamide tube comprising an impact modifier as discussed above. With regard to Claims 14 – 18, Kerschbaumer fails to disclose an impact modifier which has a glass transition temperature below 0 degrees Celsius, and comprises acid as a functional group, and has a modulus of less than 200 MPa and a melt flow index of between 0.1 and 7 g/10min measured at 190 degrees Celsius under a load of 2.16 kg and is an ultra low density polyethylene.

Princiotta et al. teach an acid – modified ultra low density polyethylene which has a glass transition temperature below 0 degrees Celsius, and comprises acid as a functional group, and has a modulus of less than 200 MPa and a melt flow index of between 0.1 and 7 g/10min measured at 190 degrees Celsius under a load of 2.16 kg which is used as an impact modifier of polyamide 6 (page 2, lines 31 – 58) for the purpose manufacturing the polyamides below a temperature of 40 degrees Celsius (page 2, lines 41 – 46).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an acid – modified ultra low density polyethylene which has a glass transition temperature below 0 degrees Celsius, and comprises acid as a functional group, and has a modulus of less than 200 MPa and a melt flow index of between 0.1 and 7 g/10min measured at 190 degrees Celsius under a load of 2.16 kg in Kerschbaumer in order to manufacture the polyamides below a temperature of 40 degrees Celsius as taught by Princiotta et al.

ANSWERS TO APPLICANT'S ARGUMENTS

9. Applicant's arguments and amended claims regarding the 35 U.S.C. 103(a) rejection of Claims 1– 12 and 14 – 20 as being unpatentable over Kerschbaumer in view of Princiotta et al. and 35 U.S.C. 103 (a) rejection of Claim 13 as being unpatentable over Kerschbaumer (U.S. Patent No. 5,219,003) in view of Princiotta et al. (European Patent 0646627) and further in view of VanBuskirk et al (U.S. Patent No. 5,357,030) have been considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on page 6 of Paper No. 12, that the rejection is improper because Kerschbaumer does not disclose an external layer formed from the composition of Claim 1. The outer layer of Kerschbaumer, Applicant argues, does not contain Grilon CA6E, which is a copolymer of caprolactam and laurolactam; only the middle layer of Kerschbaumer contains Grilon CA6E, Applicant argues, with Grilamid ELY20NZ. However, as stated on page 2 of the previous Action, it is clear from Table 1 of Kerschbaumer that both the middle and outer layers contain Grilon CA6E; the middle layer contains Grilon CA6E with Grilamid ELY20NZ, and the outer layer contains Grilon CA6E with Grilamid XE 3148.

Applicant also argues, on page 6, that Grilamid XE 3148, which Kerschbaumer discloses as an impact modified polyamide, is also not the same as the claimed external layer composition. However, as stated on page 2 of the previous Action. However, Grilon CA6E, which is also contained in the outer layer, is the same as the claimed external layer composition.

Applicant also argues, on page 7, that Kerschbaumer discloses an impact – strength modified polyamide as an external layer, and therefore does not disclose Grilon CA6E as the external layer. However, as stated above, it is clear from Table 1 that Kerschbaumer also discloses Grilon CA6E as an additional component of the external layer.

Applicant also argues, on page 7, that the middle and outer layers of Kerschbaumer are not identical, as stated in the previous Action. However, the term ‘identical’ was only intended to indicate that both layers comprise Grilon CA6E.

Applicant also argues, on page 7, that one of ordinary skill in the art would not have been motivated to modify the Kerschbaumer fuel line by employing a material for forming the middle barrier such as Grilon CA6E to form the external layer; the external layer of Kerschbaumer is

Art Unit: 1772

impact modified, Applicant argues, whereas the middle layer is not. However, as stated above, it is clear from Table 1 that Kerschbaumer discloses Grilon CA6E as an additional component of the external layer.

Applicant also argues, on page 8, that the combination of Kerschbaumer and in view of Princiotta et al. is improper because Princiotta et al do not disclose a multilayer structure, or a structure comprising the claimed composition. However, Princiotta et al. teach an acid – modified ultra low density polyethylene as an impact modifier for polyamides, for the purpose manufacturing the polyamides below a temperature of 40 degrees Celsius (page 2, lines 41 – 46). It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an acid – modified ultra low density polyethylene in Kerschbaumer in order to manufacture the polyamides below a temperature of 40 degrees Celsius as taught by Princiotta et al.

Applicant also argues, on page 8, that the combination of Kerschbaumer and in view of Van Buskirk et al. is improper because Van Buskirk et al do not disclose a multilayer structure, or a structure comprising the claimed composition. However, as stated on page 2 of the previous Action, VanBuskirk et al teach the addition of a chain extender to polyamide 6 for the purpose of improving the physical characteristics of the polyamide 6 in the making of extruded products.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for the addition of a chain extender to polyamide 6 in Kerschbaumer and Princiotta et al in order to improve the physical characteristics of the polyamide 6 in the making of extruded products as taught by VanBuskirk et al.

Art Unit: 1772

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

Marc Patterson
Art Unit 1772

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 *8/10/02*